Doc. No. 370017.033, Issue 1
Published 30 September 2013

System Status

This section is read-only access. Scroll through the menus and interrogate or edit the system information about AC mains, generator, rectifiers, solar chargers, DC-DC converters, system load, battery and voltage information, inputs and outputs, and control system components information.

System Configuration

Note: This section is password-protected and should only be used by System Administrators.

Use this section to interrogate the system, and to make changes or reprogram the system factory default parameters. Administrators can program basic system parameters, network configuration, system voltages, system calibrations, generator configuration, rectifier's configuration, solar chargers configuration, DC-DC converters configuration, battery configuration, battery test and battery boost configuration, symmetry configuration.

Alarm Configuration

Note: This section is password-protected and should only be used by System Administrators.

Use this section to configure the system LVD devices and system alarm tables, to create/delete and to enable/disable alarms and alarm groups, enable/disable inputs and outputs of the system, program alarms alarm levels and alarm severity levels for AC mains alarm, generator alarm, rectifiers alarm, solar chargers alarm, DC-DC converters alarm, load alarm, battery alarm, inputs/outputs alarm, and control system alarm.

System Commands

Note: This section is password-protected and should only be used by System Administrators.

Use this section to execute commands to start and stop specific functions of the power system. Such commands include (but are not limited to): reset alarms, start/stop battery test, start/stop battery boost, reset the system configuration, relay test.

Note: testing relays may activate the system LVD devices.

Upload/ Download

Note: This section is password-protected and should only be used by System Administrators.

The Smartpack2 controller features a SD card slot. This section of the controller allows you to download Information and data from the controller and store it on the onboard SD card. From the SD card, configuration profiles and software upgrade can be uploaded to the control system, to the Smartpack2 controller, the Smartpack2 basic controller, Smartpack2 basic industrial controller, and CAN nodes.

Logs and Reports

This section is read-only access. Use this section to access information about active alarms, system events, voltage information, load information, battery information, and battery test results. The system hardware and software inventory can be displayed on this section.

Statistics

This section is read-only access. It displays daily and monthly energy statistics for the highest, lowest and average values.

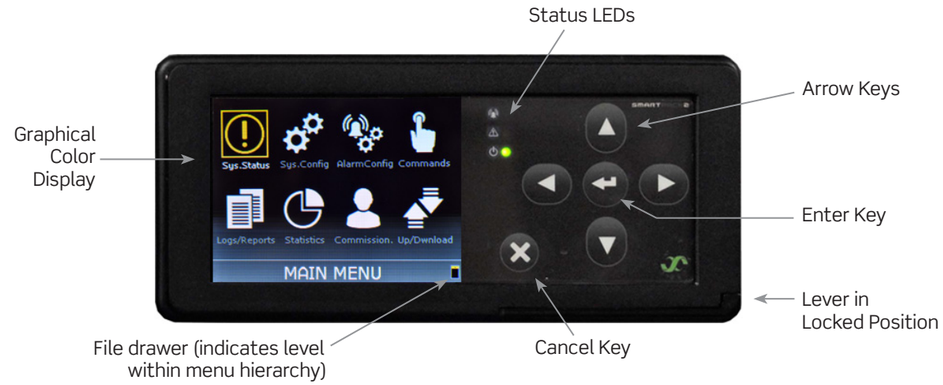
Commissioning

This section is read-only access. It displays general information and guided steps to commissioning the power system.

www.eltek.com | techsupport.us@eltek.com

Eltek, Inc.
2925 E. Plano Pkwy, Plano, TX 75074, USA
Phone: +1 (469) 330-9100 Fax: +1 (469) 330-9101

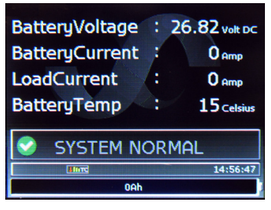
Navigation and Menu Tree
Smartpack2 Controller



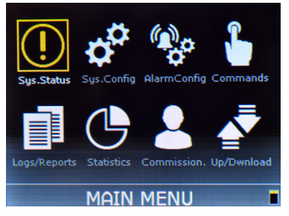
Navigation Keys

↵	**Enter Key**	To change from Status mode to Menu mode and to select options, enter values	◀ ▶	**Left or Right Key**	To navigate one page up or down and to highlight options
✕	**Cancel Key**	To navigate to previous level, view alarms, and cancel options and values	▲ ▼	**Up or Down Key**	To navigate up or down, highlight options and increase or decrease value.

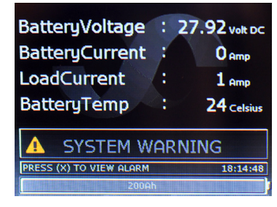
Menu Navigation



Press ▲ ▼ ↵ keys to go to the MAIN menu.



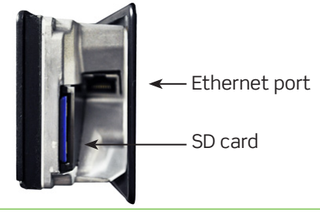
Press ↵ key to go inside a menu.



Press ✕ key to view Alarms.
(ALARM only appears when an alarm is active.)

Accesssing the SD Card and Ethernet Port

Open the controller by sliding the lever from right to left.



SYSTEM STATUS

Mains	SelectGroup up/dwn
	NoOfPhases
	MainsLow
	MainsVolt1
	MainsVolt2
	MainsVolt3
Generator	GenFail
	GenActivation
	DischargeValue %
	MainsNotPresent
	ChargeTime
	FuelRamaining
Rectifiers	SelectGroup
	NoRectifiers
	RectifierCurrent
	RectifierError
	RectLowMains
	RectCommError
	RectCapacity
	RectCurrShareErr
	RectifierTemp
Solar	NoOfSolarChargers
	SolarCurrent
	SolarChargerError
	SolarCommError
	SolarSynnetryErr
	SolarChargerTem
DcDc	NoOfDcDcConvs
	DcDcCurrent
	DcDcError
	DcDcCommError
	DcDcCapacity
	DcDcTemp
Load	NoOfLoadGroups
	LoadCurrent
	Status Fuse
	Status LVLD
Battery	BatteryVoltage
	BatteryCurrentr
	BatteryTemp
	BatteryLifeTime
	LVBD
	Fure
	BatteryQuality
	BadTestResults
	BatteryTotCap
Inputs	ProgInput 1.1
	ProgInput 1.2
	ProgInput 1.3
	ProgInput 8 1.1
	ProgInput 8 1.2
	ProgInput 8 1.3
	ProgInput 8 1.4
	ProgInput 8 1.5
	ProgInput 8 1.6
Outputs	Major alarm
	Minor alarm
	Mains alarm
	Fuse alarm
	Battery high
	Battery low
	Rectifier alarm
	AlarmGroup 08 - 17
	LBCD
	LVLD1
	LVLD2
CtrlSystem	NoOfCtrlUnits
	CtrlUnitError
	CU Err.BattMonitor
	CU Err.IO-Unit
	Temperature1.1
	Temperature1.2
	Temperature1.3
	Earth Faulty 1
OutDoor	Outdoor hardware ↕

SYSTEM CONFIG

PowerSystem	GeneralSystemConfig	ReferenceVoltage
		NoOfBatteryCells
		BattCapacity-Scale-Ah/%?
		Temp-scale-Celsius/F?
		SysPolarity - Pos/Neg?
		CurrRes - Amp/DeciAmp?
		GenFunc - Std/Advanced?
		Critical Criteria
		Language
		Year
		Month
		Day
		Hour
		Minute
		Agent IP Address
		Network Subnet Mask
		Default Gateway
		Change Service PassWd
		Display timeout - (0=Off)
		Keylock timeout - (0=Off)
	System Voltages	Reference Voltage
		Boost Voltage
		BatteryTestEndVoltage
		RectStandbyVoltage
		BattDisconnectVoltage
		BattReconnectVoltage
		Rect OVS Limit
		RectEmergencyVoltage
	SystemCalibration	Voltage-HiPointCalValue
		Voltage-HiPointA/DValue
		Voltage-LoPointCalValue
		Voltage-LoPoint A/D value
		Current-HiPointCalValue
		Current-HiPoint A/D Value
		Current-LoiPointCalValue
		Current-LoPoint A/D Value
Mains	SelectGroup Up/Dwn	NumberOf Phases
Generator	Gen-Enable/Disable?	
	LongChargeTime -[H]	
	Stop Delay - min	
	MainsFailDelay - min	
	EnableBoostDuringCharg	
	PrimAlGroup(OutpToActivate)	
	SecAlGrp(OutpToActivate)	
	CptyCrtl Start/Stop-Ena/Dis?	
	StartGen-OnDischLimit %	
	StopGen-OnChargeLimit %	
	CurrLimCtrled Stop/Ena/Dis?	
	GenStopCurrenLimit [A]	
	VoltCtrl - Start-Ena/Dis?	

Generator cont.	StartGenerator on Voltage[V]	
	StopGenOn time-Limit[H]	
	Cap/timeCtrlStart/StopEna/Dis?	
	StartGenOnDischargeLimit[%]	
	StopGenOnTimeLimit [H]	
	DelayGenStart Ena/Dis?	
	Sunday - Start [H]	
	Sunday - Stop [H]	
	Sunday -AlGroup to Activate	
	Monday - Start [H]	
	Monday - Stop [H]	
	Monday -AlGroup to Activate	
	Tuesday - Start [H]	
	Tuesday - Stop [H]	
	Tuesday -AlGroup to Activate	
	Wednesday - Start [H]	
	Wednesday - Stop [H]	
	Wednesday -AlGroup to Activate	
	Thursday - Start [H]	
	Thursday - Stop [H]	
	Thursday -AlGroup to Activate	
	Friday - Start [H]	
	Friday - Stop [H]	
	Friday -AlGroup to Activate	
	Saturday - Start [H]	
	Saturday - Stop [H]	
	Saturday -AlGroup to Activate	
	MonthlyStartTime [H]	
	MonthlyStartDay 1.start	
	MonthlyStartDay 2.start	
	MonthlyAlGrpToActivate	
Rectifiers	SelectGroup up/dwn	
	NoOfGroups	
	SupprRectErr dMainsFail-Y/N?	
	RectWalkinTime-Short/Long?	
	RectVar BattPowered Y/N?	
	OVS Limit [V/cell	
	CurrentLimit enable On/Off?	
	CurrentLimit value [A]	
	RectEmergencyVol value [V]	
	GenDepStartUpDelay On/Off?	
	GeneratorStartUpDelay [min]	
Solar	NoOfSolarChargers	
	SupprSolErr dMainsFail-Y/N?	
	OVS Limit [V/cell	
DcDc	NoOfDcDc Converters	
	Reference Voltage	
	OVS Limit [V/cell	
	RectCurLimit eneble On/Off?	
	RectCurLimit value [A]	

Load	NoOfLoadGroups	
	NoOf LVLDs	
Battery	Battery Config	NoOfBatteryStrings
		CapacityPerString [Ah]
		TempCompensation On/Off?
		Reference Voltage [V/Cell]
		Reference Temperature [C]
		Temp Slope [mV/C/Cell]
		MinCompensationVolt [V/Cell]
		MaxCompensationVolt [V/Cell]
		BattCurrentLimit On/Off?
		CurrentLimitValue [A] (MainsFed)
		CurrentLimitValue [A] (GenFed)
	Battery Test Configuration	Normal/Simplified BattTest?
		EndVoltageSimpleTest [V/Cell]
		MaxTestDuration Enable/Disable?
		MaxTestDuration [min]
		MaxDischargeStop Enable/Disable?
		MaxDischargeStop [Ah]
		GuardTime - Enable/Disable?
		GuardTime [hours]
		AlarmGrp to Activate duringTest
		IntervalTest Enable/Disable?
		NextInterval StartYear
		NextInterval StarMonth
		NextInterval StartDay
		NextInterval StartHour
		NextInterval StartMinute
		IntervalPeriod [days]
		AutoTest Enable/Disable?
		DiscontinuanceTest Enable/Disable?
		Repeat Frequency [days]
		Max duration [minutes]
	BatteryBoost Configuration	BoostVoltage [V/Cell]
		StopBoostCurrThresh Ena/Disa?
		StopBoostCurrThreshold [A]
		AlarmGrp to Activate duringBoost
		ManualBoostMaxDuration [min]
		IntervalBosst Enable/Disable?
		NextInterval StartYear
		NextInterval StarMonth
		NextInterval StartDay
		NextInterval StartHour
		NextInterval StartMinute
		IntervalPeriod [days]
		IntervalBoostMaxDuration [min]
		AutoBoost Enable/Disable?
		AutoBoostMaxDuration [min]
		AutoBoostChargeFactor [%]
		AutoBoostDischargeThreshold [Ah]

Battery, cont.	BatteryBoost Config., cont.	AutoBoostVoltageThresh Ena/Disa?
		AutoboostVoltageThreshold [V]
	Symmetry Configuration	SymmMeasurement Ena/Disa?
		SymmVoltage range [V]
		SymmMode Continuous/Dischrg?
		SymmDischarge Delay [min]
	BatteryLifeTime Config	TemperatureRange 01 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 02 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 03 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 04 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 05 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 06 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 07 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 08 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 09 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
		TemperatureRange 10 Ena/Disa?
		TemperatureLimit [C]
		Temperature Weight
		HoursWithinTempRange
	OutDoor	Outdoor batteries ↕

LOGS / REPORTS

Active Alarm(s)	Show all active alarms ↕	
Event Log	Show all events ↕	
Data Log	BatteryVoltage	Show all events ↕
	BatteryCurrent	Show all events ↕
	LoadCurrent	Show all events ↕
	TotRectCurrent	Show all events ↕
	MainsVolt 1	Show all events ↕
	MainsVolt 2	Show all events ↕
	MainsVolt 3	Show all events ↕
	Power	Show all events ↕
	BatteryTemo	Show all events ↕
	BatteryRemCap	Show all events ↕
BatteryTest Log	Show test results	
Inventory Report	Company	
	Site	
	Model	
	Install Date	
	Serial Number	
	ServiceDate	
	Responsible	
	Message 1	
	Message 2	
	SP2 Master1 info	
	SW Info	
	HW Info	
	SP2 Basic 1 Info	
	SW Info	
	HW Info	
	BatteryMon 1 Info	
	SW Info	
	HW Info	
	I/O Unit 1 Info	
	SW Info	
	HW Info	
	Any other hardware ↕	

STATISTICS

LoadCurrent	DailyHighest	Show all events ↕
	DailyLowest	Show all events ↕
	HighestHour Average	Show all events ↕
	Month Highest Peak	Show all events ↕
	Month Highest Average	Show all events ↕
BatteryCurrent	DailyHighest	Show all events ↕
	DailyLowest	Show all events ↕
	HighestHour Average	Show all events ↕
	Month Highest Peak	Show all events ↕
	Month Highest Average	Show all events ↕
BatteryVoltage	DailyHighest	Show all events ↕
	DailyLowest	Show all events ↕
	HighestHour Average	Show all events ↕
	Month Highest Peak	Show all events ↕
	Month Highest Average	Show all events ↕
BatteryTemp	DailyHighest	Show all events ↕
	DailyLowest	Show all events ↕
	HighestHour Average	Show all events ↕
	Month Highest Peak	Show all events ↕
	Month Highest Average	Show all events ↕
RectifierCurrent	DailyHighest	Show all events ↕
	DailyLowest	Show all events ↕
	HighestHour Average	Show all events ↕
	Month Highest Peak	Show all events ↕
	Month Highest Average	Show all events ↕
SystemValues(Peak/Avg)	BatteryVoltage	
	BatteryCurrent	
	BatteryTemp	
	LoadCurrent	
	TotRectCurrent	
	MainsVolt 1	
	MainsVolt 2	
	MainsVolt 3	

ALARM CONFIG

Mains	Select Group		DcDcCapacity		BattMonTemp 1		AlarmGroup 08 to 17
	MainsLow		DcDcTemp		BattMonFuse 1		OutpBlocked
	MainsVolt1	**Load**	LoadCurrent		BattMonCurr 1		Major alarm
	MainsVolt2		LoadFuse 1		BattMonSym1.1		Minor alarm
	MainsVolt3	**Battery**	BatteryVoltage		BattMonSym1.2		Mains alarm
Generator	GeneratorFail		BatteryCurrentr		BattMonSym1.3		Fuse alarm
	FuelRemaining1		BatteryTemp		BattMonSym1.4		Battery high
Rectifiers	Select Group _		BatteryLifeTime	**Inputs**	ProgInput 1.1		Battery low
	RectifierCurrent		LVBD		ProgInput 1.2		Rectifier alarm
	RectifierError		Fure		ProgInput 1.3		AlarmGroup 08 to 17
	RectLowMains		BatteryQuality		ProgInput 8 1.1		OutpBlocked
	RectCommError		BadTestResults		ProgInput 8 1.2		LVBD
	RectCapacity		BatteryTotCap		ProgInput 8 1.3		LVLD1
	RectCurrShareErr		BatteryRemCap		ProgInput 8 1.4		LVLD2
	RectifierTemp		BatteryTimeLeft		ProgInput 8 1.5		Other Groups
Solar	SolarCurrent		DeltaStringCurr		ProgInput 8 1.6	**CtrlSystem**	CtrlUnitError
	SolarChargerErr		BatteryUsedCap	**Outputs**	Major alarm		Temperature1.1
	SolarCommErr		BatteryVolt: bank 1		Minor alarm		Temperature1.2
	SolarSymmetryErr		BattFuses 1		Mains alarm		Temperature1.3
	SolarChargerTemp		BatteryTemp1.1		Fuse alarm		Earth Faulty 1
DcDc	DcDcCurrent		BatteryTemp1.2		Battery high		CU Err.BattMonitor
	DcDcError		BatteryTemp1.3		Battery low		CU Err.IO-Unit
	DcDcCommError		BattCurr bank 1		Rectifier alarm	**OutDoor**	Outdoor alarms ↕

COMMANDS

System Commands	Reset Manual Alarm(s)
	Reset Number of Modules
	Delete Event Log
	Set Default Configuration
	LED Test
	Block Outputs - On
	Block Outputs - Off
	Reboot System
	Set Default Calibration
Battery Commands	Start Battery Test
	Stop Battery Test
	Start Battery Boost
	Stop Battery Boost
	ResetBatteryLifetime Monitor
Output Test	Output Relay # 1
	Output Relay # 2
	Output Relay # 3
	Output Relay # 4
	Output Relay # 5
	Output Relay # 6

UP / DOWNLOAD

Software Upgrade	SP2 Master 11	
	SP2 Basic 1	
	BatteryMon 1	
	I/O Unit 1	
	Other Units ↕	
Save Event Log		
Save Data Log		
Save Energy Log		
Save/Load Config	Save Config to File	SP2 Master 11
		SP2 Basic 1
		BatteryMon 1
		I/O Unit 1
		Other Units ↕
	Load Config from File	SP2 Master 11
		SP2 Basic 1
		BatteryMon 1
		I/O Unit 1
		Other Units ↕

COMMISSIONING

This section is read-only access. It displays general information and guided steps to commissioning the power system.

This document reflects software version 2.2.1 of the Smartpack2 Controller and is subject to change without notice.